

were described. There are now 65 species that are taxonomically recognized, with another four that are yet to be added after description. There is another species from the Windsor Tableland rainforests of north Queensland that has been identified by its ecolocation call structure as being a small Sheath-tail bat, but since it still hasn't been caught it remains unidentified at species level. In fact, it is difficult to conduct fieldwork without tripping over a species previously undescribed or known from this country, which simply exemplifies that there are not enough researchers to cover such a large task, so how then can we expect to confidently state that our summary of conservation problems is finite. The expression "just scratching the surface" is an excellent position statement, and we can certainly hypothesize that there are many more conservation problems that are yet to unfold, but conversely, there are probably many that we have missed and will never recover.

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Response to Comments on Bat Conservation in Australia

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The supportive comments on my bat conservation article by reviewers and their suggestions for additional areas requiring attention were most welcome.

There is obviously a lot more to do with bats given the lack of so much basic knowledge (e.g., species taxonomy — Baverstock; distribution and ecophysiology — Richards and Thompson) before we can establish a proper set of priorities for their conservation.

Several of the reviewers (Richards, Thompson, Woodside) pointed to the need for more ecological studies on forest bats. There is a weakness in my article on the importance of forest bats, not only for their own conservation but for forest management as well. This reflects my bias over the years to be involved mainly with cave-dwelling bats. The research conducted by the ANU group, the New South Wales NPWS group studying south coast woodchips, Arthur Rylah and CALM (WA) have made important contributions to forest bat ecology. Their studies are relevant to conservation of uncommon species (e.g., *Phoniscus papuensis*) and have shown that

bats can be used as excellent indicator species in forest management (e.g., *Nyctophilus gouldii*). It would be appropriate for these groups of researchers to review their findings and plot future directions.

I don't intend to set up a new set of priority projects. The 15 projects I suggested were to show what worthwhile research could be undertaken in relation to bat conservation. They are projects which are ready to go and were aimed at not only bat researchers but interested public and government officials. There are projects for everyone.

Woodside re-organized the projects into logical areas of research — an approach which has merit and would be appreciated by government and planning authorities. Her priorities move from public awareness to resource allocation at the government level. My only criticism of her priorities is that individuals cannot see their project as meaningful — given the wide scope of the listing. It is essential, however, that this type of programme be presented to the appropriate authorities. It needs to be

drafted by the IUCN Species Survival Committee, ESAC (Endangered Species Action Committee, convened by ANPWS) and relevant experts, soon.

In the meantime we need to promote public participation. There is ample evidence of public interest in bats and a willingness to get involved (e.g., Bat Watch, Augée, Ku-ring-gai Bat Colony Committee, Pallin, and Brisbane's Batty Boat Trips). This growing interest in bats is

reflected internationally by the outstanding success of Bat Conservation International and the British Bat Clubs. It is this public ground-swell that needs to be fostered to aid bat conservation in Australia. While I agree with Recher that ultimately government/politicians call the shots and provide the funds, they also react to public opinion. We need a national co-ordinator who is apolitical and as Augée says we now need to re-address bat conservation issues from "they orta" to "we can".

Response to papers by H. F. Recher and J. F. Whitehouse

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The recent papers by Recher (1990) and Whitehouse (1990) are important contributions to the literature on conservation.

Recher (1990) clearly emphasizes the magnitude of the tasks to be addressed and the urgency with which they must be tackled. Conservation cannot be regarded as the province of some minor backwater of the bureaucracy but as activity which affects (and is affected by) the whole population and which should be central to government.

The declaration and management of formal conservation reserves should be only one component (but an essential one) of conservation policy. Recher and Whitehouse are in agreement that in New South Wales the existing reserve network is an inadequate sample of the State's wildlife.

Whitehouse provides an explanation of how the present reserve network was developed. During the first twenty or so years of the National Parks and Wildlife Service's existence, the organization's conservation objectives have been unclear (which is not to say that at various times individuals might not have had very clear ideas of what the objectives ought to be) or so broadly defined as to be motherhood statements and land acquisition has to a large extent been driven by opportunity and outside pressure, although at least ostensibly, remaining within the framework originally developed by the Scientific Committee on Parks and Reserves. (Whitehouse argues that the model for the Service is to be sought in the United States National Parks Service, and certainly the public identification of NPWS is of a body similar to its United States counterpart. However, if the Scientific Committee has antecedents I would suggest that they are in the committee which met in wartime England to produce Cmd 7122 — "Conservation of Nature in England and Wales", the blueprint for

the Nature Conservancy and probably the first national list of sites of exceptional conservation interest).

The title of Whitehouse's paper was "Conserving what? ...". While it remains important to secure more sites for conservation, those sites already reserved must be managed. What should be the objectives of management?

In determining priorities and resources for management, it seems to me that the NPWS faces problems stemming from its basic objectives. The Service is charged with the delivery of official conservation policies but it also has a major role to play in the provision of a wide range of recreational experiences (as well as more traditional uses of natural areas, the environment is increasingly seen as a major tourist attraction, leading to pressures for the establishment of new and larger facilities in, or close to, conservation areas). This dichotomy of purposes finds its expression in the terminology of conservation reserves. National Parks and State Recreation Areas provide recreational opportunities while Nature Reserves are established primarily to meet nature conservation goals. Clearly National Parks have also always met nature conservation objectives (and even some SRAs contain areas of high conservation value) while some Nature Reserves have well developed visitor facilities. Nevertheless, while most of the general public could name at least one National Park, very few would even have heard of Nature Reserve and the Service's role is seen primarily as providing facilities within pleasant natural surroundings. [The 1988-89 Annual Report is largely illustrated by pictures of facilities with no pictures of wildlife.]

Very few Nature Reserves have a formal plan of management while plans of management for National Parks rarely have much to say about conservation. The public might not see this as a problem — make provision